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SOIL INVESTIGATION REPORT FOR THE PROPOSED CONSTRUCTION OF RCC ROOF (G+1) FLOORS RESIDENTIAL INDIVIDUAL VILLAS BUILDING S.F.NO: 459, 460 & 461 AT SOMAYAMPALAYAM VILLAGE, COIMBATORE NORTH TALUK AND COIMBATORE DISTRICT.

SOIL INVESTIGATION REPORT

Client:
M/s. Ananya Shelters Pvt. Ltd.,
Coimbatore.

By

THE COIMBATORE DIGITAL SURVEYORS
30, Second Main Road, Anna Nagar,
Peelamedu (Post),
Coimbatore – 641 004
Tamil Nadu, India
Phone: 9790030071 / 9790090051

December 2023

THE COIMBATORE DIGITAL SURVEYORS
(Specialised in Digital & GPS Survey)

GSTIN No.: 33BLJPS8355R1Z2

30, Anna Nagar,
Second Main Road,
Peelamedu (Post)
Coimbatore – 641 004
Phone: 9790030071/9790090051
Email: digitalsurvey@gmail.com

Date: 08-12-2022

To

M/s. Ananya Shelters Pvt. Ltd.,
Coimbatore.

Dear Sir,

Ref: Soil/ S038 / 2023-2024 / dated 04-12-2023

Sub: Proposed Construction of RCC Roof (G+1) Floors Residential Individual Villas Building in S.F.No: 459, 460 & 461 at Somayampalayam Village, Coimbatore North Taluk and Coimbatore District. Soil Testing Reports - Reg.

We take pleasure in submitting the report on soil investigation for Proposed Construction of RCC Roof (G+1) Floors Residential Individual Villas Building in S.F.No: 459, 460 & 461 at Somayampalayam Village, Coimbatore North Taluk and Coimbatore District. The report describes various soil properties and design parameters for the site. It is hoped that the results presented in this report will provide all the information required for the design of foundations for the proposed structure.

Thanking you,

For The Coimbatore Digital Surveyors,

THE COIMBATORE DIGITAL SURVEYORS CBE

Authorized Signatory
Er.K.PRAKASH,M.E.,(Geotech),MIGS.,
Geotechnical Consultant
Reg.No: LPA/GTE/CBE/19/05/003.

SOIL INVESTIGATION REPORT DETAILS

CLIENT	: M/s. Ananya Shelters Pvt. Ltd., Coimbatore.
LOCATION	: S.F.No: 459, 460 & 461, Somayampalayam Village, Coimbatore North Taluk, Coimbatore District.
STATE	:Tamil Nadu
TYPE OF BUILDING	: RCC Roof (G+1) Floors Residential Individual Villas Building
SITE INSPECTION DATE	: 04th December 2023
DATE OF TEST	: 04th December 2023 to 05th December 2023
NATURE OF TEST	: Engineering Status
TEST CONDUCTED BY	: Er. M. Mohammed Suhail DCE., BE., Er. K. Mohanraj DCE.,

1.0 Introduction

The sub-soil exploration for the Proposed Construction of RCC Roof (G+1) Floors Residential Individual Villas Building in S.F.No: 459, 460 & 461 at Somayampalayam Village, Coimbatore North Taluk and Coimbatore District was entrusted to M/s. Coimbatore Digital Surveyors, No: 30, Second Main Road, Anna Nagar, Peelamedu (Post), Coimbatore – 641 004, Tamil Nadu, India.

In order to obtained information about geo-engineering properties of the sub strata, a program of sub soil investigation was undertaken. The soil investigation carried out through a total number of **Ten** test pits (Refer location plan)

This report presents an account of field and laboratory activities. An analysis of the field and laboratory tests results have been carried out to determine the barring capacity of soil for the optimum design of foundation. This report incorporates recommendation for the allowable soil pressure to be adopted for the proposed structure. The Site inspection on 04-12-2023 and test conducted on dated 04-12-2022 & 05-12-2023.

The soil investigation was carried out in accordance with the Indian Standard Code of Practice IS 2131- 1981 (Reaffirmed 1997) and other IS code of practice.

2.0 Object of Investigation

The object of investigation is to ascertain the nature and characteristics of sub-soil below the ground level at the proposed site. The study would include identification of suitable foundation systems for the subject work and assessment of safe bearing capacity.

3.0 Scope of Works

The scope of work at this site comprised of the following:

3.1 Excavation of soil for Test Pit.1 at a depth of 2.20m, Test Pit.2 at a depth of 2.80m, Test Pit.3 at a depth of 3.60m, Test Pit.4 at a depth of 2.60m, Test Pit.5 at a depth of 3.10m, Test Pit.6 at a depth of 3.60m, Test Pit.7 at a depth of 2.50m, Test Pit.8 at a depth of 2.90m, Test Pit.9 at a depth of 3.90m and Test Pit.10 at a depth of 3.70m.

3.2 Conducting Standard Penetration Tests in test pit and collecting the disturbed samples including packing and transportation to laboratory.

3.3 Preparation and submitting detailed report with field test results.

4.0 Field Investigation

4.1 A team of technical personnel with skilled labours was also deputed.

4.2 Ten tests pits to a maximum of at a depth of 2.20m, 2.80m, 3.60m, 2.60m, 3.10m, 3.60m, 2.50m, 2.90m, 3.90m & 3.70m below the existing ground level. The test pits were as per IS: 1892-1979.

4.3 Disturbed samples were collected at 2.20m, 2.80m, 3.60m, 2.60m, 3.10m, 3.60m, 2.50m, 2.90m, 3.90m & 3.70m depth at Ten test Pits. The samples so collected were carefully sealed and numbered with full particulars for identification and sent to the laboratory for conducting the required tests.

4.4 Standard Penetration Tests were conducted, Test Pit.1 at a depth of 2.20m, Test Pit.2 at a depth of 2.80m, Test Pit.3 at a depth of 3.60m, Test Pit.4 at a depth of 2.60m, Test Pit.5 at a depth of 3.10m, Test Pit.6 at a depth of 3.60m, Test Pit.7 at a depth of 2.50m, Test Pit.8 at a depth of 2.90m, Test Pit.9 at a depth of 3.90m and Test Pit.10 at a depth of 3.70m. as per IS: 2131 – 1981. In this test, the standard split spoon sampler is driven into the ground at the required depth by means of standard hammer of 63.5Kg weight, falling from a height of 75cm. Number of blows for the first 15cm is not taken into consideration because of possible disturbances or presence of settled, suspended matters at the bottom of

bore-holes. The total number of blows for the next 30cm depth of penetration is considered as SPT 'N' values are absorbed as shown in Table.

4.5 Ground Water Table

The water table in the test pit was taken while SPT test progress at the following times. a) Before work commence

b) After the work finished

Ground water table not met at the time of investigation.

4.6 Site Conditions

The Proposed Construction of RCC Roof (G+1) Floors Residential Individual Villas Building in S.F.No: 459, 460 & 461 at Somayampalayam Village, Coimbatore North Taluk and Coimbatore District and the surrounding areas are Built-up Area and Vacant land. There is chance to rise the water table due to passing stream through near to the west side of the boundary, which was noted as per our site inspection.

5.0 Laboratory Investigation

The laboratory tests were conducted on the selected samples received from the test pits.

All the above laboratory tests were carried out as per relevant Indian Standard. All the samples were identified and classified as per IS: 1498–1970.

6.0 Soil Profile & Safe Bearing Capacity

Pit No	Depth of Pit	Soil Profile	SPT Result (N–Value)	Safe Bearing Capacity
1.	2.20m	0.00 to 2.00m: High Compressed Silty Soil 2.00 to 2.20m: Reddish Dense Gravel with Fines	>50	320 kN/sq.m
2.	2.80m	0.00 to 2.40m: High Compressed Silty Soil 2.40 to 2.80m: Reddish Dense Gravel with Fines	>50	320 kN/sq.m
3.	2.10m	0.00 to 1.50m: High Compressed Silty Soil 1.50 to 2.10m: Reddish Dense Gravel with Fines	>50	350 kN/sq.m
4.	2.60m	0.00 to 2.30m: Silty Soil 2.30 to 2.60m: Reddish Dense Gravel with Fines	>50	320 kN/sq.m
5.	3.10m	0.00 to 2.80m: Silty Soil 2.80 to 3.10m: Reddish Dense Gravel with Fines	>50	320 kN/sq.m
6.	3.60m	0.00 to 2.60m: Silty Soil 2.60 to 3.60m: Reddish Dense Gravel	>50	320 kN/sq.m
7.	2.50m	0.00 to 1.30m: Silty Soil 1.30 to 2.50m: Reddish Dense Gravel	>50	280 kN/sq.m
8.	2.90m	0.00 to 2.10m: High Compressed Silty Soil 2.10 to 2.90m: Reddish Dense Gravel	>50	320 kN/sq.m
9.	3.90m	0.00 to 3.10m: Silty Soil 3.10 to 3.90m: Reddish Dense Gravel	>50	300 kN/sq.m
10.	3.70m	0.00 to 2.80m: Silty Soil 2.80 to 3.70m: Reddish Dense Gravel	>50	300 kN/sq.m

7.0 Discussion and Type of Foundation

In the test pit was observed that General soil profile consist of High Compressed Silty Soil, Silty Soil underlain by Reddish Dense Gravel with Fines . This layer becomes progressively denser as depth increases. It becomes very dense (N-value more than 50). With the availability strata at the shallow depths, shallow Open combined Square / rectangle footing may be a suitable foundation system for the buildings / structures in the proposed area.

Bearing capacities were worked out as per Indian Standard Code of Practice IS: 6403-1981 for shear criterion and IS: 8009 (Part-I) 1976 for settlement criterion, adopting a minimum factor of safety of 3.0. The bearing capacities were calculated from shear criterion and for 40mm settlement.

8.0 Recommendations

Recommended allowable bearing capacity is 280kN/m^2 for design purpose at a depth of 3.90m from Natural Ground Level (NGL).

For The Coimbatore Digital Surveyors,

Authorized Signatory

Er.K.PRAKASH,M.E.,(Geotech),MIGS.,
Geotechnical Consultant
Reg.No: LPA/GTE/CBE/19/05/003.

DISTRICT : COIMBATORE

TALUK : COIMBATORE NORTH

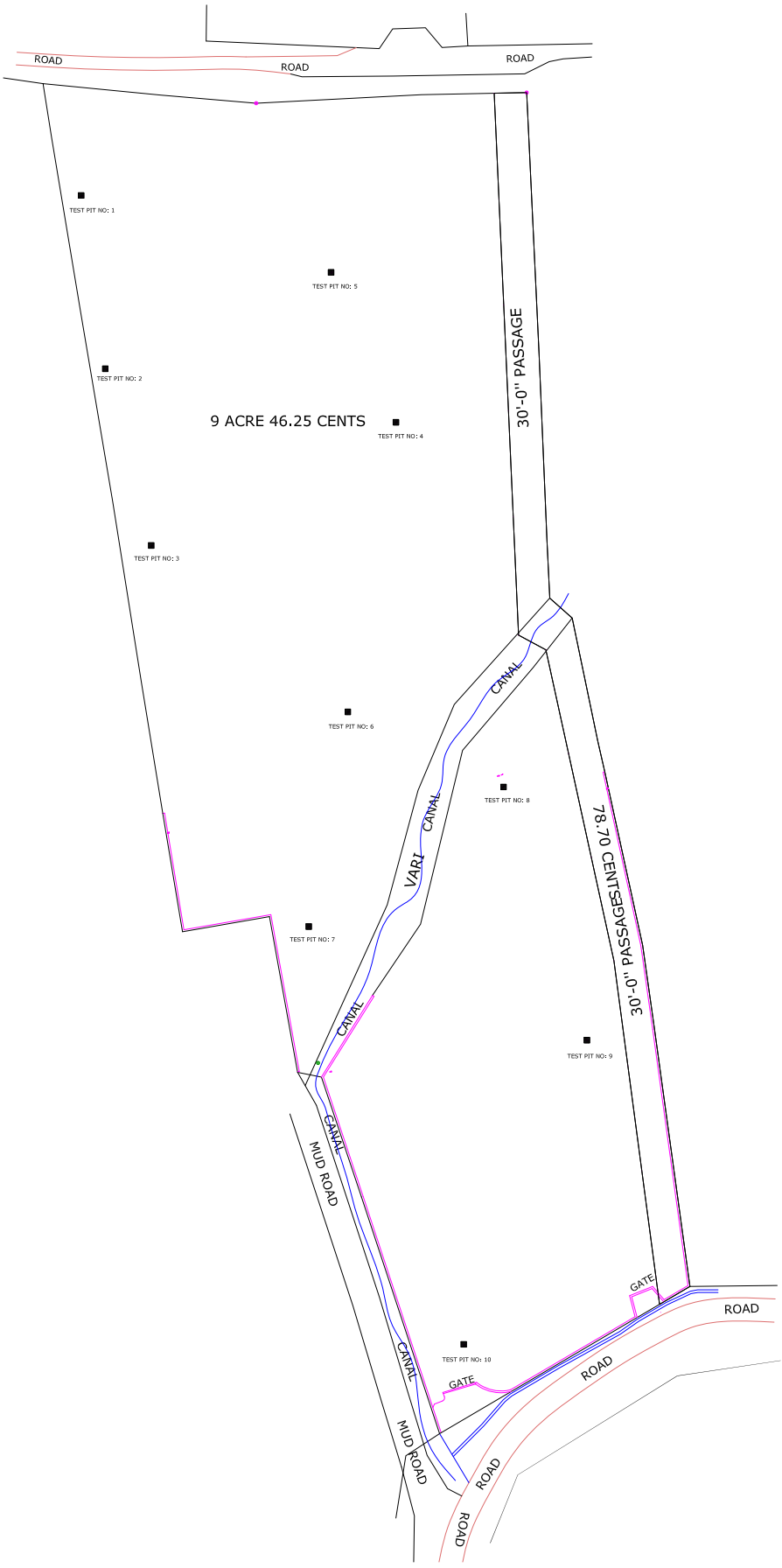
VILLAGE : SOMIYAMPALAYAM

S.F.NO : 459,460,461

TEST PIT LOCATION

M/s. Ananya Shelters, Pvt Ltd,

Coimbatore.





TEST PIT -1



TEST PIT -2



TEST PIT -3



TEST PIT -4



TEST PIT -5



TEST PIT -6



TEST PIT -7



TEST PIT -8



TEST PIT -9



TEST PIT -10



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Forms & Templates, Document Generator, Document Translation, Dictionary

Vastu & Property Management Tools

Home Vastu Shastra, Plot Vastu Shastra, Property Management

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